REMARKS

In the Office Action mailed on November 28, 2008 claims 1, 2, 4-8, 13, 14, and 21-27 were rejected. Original claims 1, 2, 4-8, 13, 14, and 21-27 remain pending in the present application and are believed to be in condition for allowance. In view of the following remarks, the Applicants respectfully request reconsideration and allowance of all pending claims.

35 USC §102

Claims 1, 2, 4, 5, 7, 8, 13, 14, and 21-27 were rejected under 35 U.S.C. § 102, as being anticipated by U.S. Patent No. 6,142,946 to Hwang et al (U.S. Patent No. 6,142,946, hereinafter "Hwang"). Of these, claims 1, 13, 21 and 26 are independent claims.

A prima facie case of anticipation under 35 USC §102 requires showing that each limitation of a claim is found in a single reference, practice or device. Applicant respectfully asserts that the present invention, as recited in independent claims 1, 13, 21 and 26 is patentable over the Hwang reference. To sustain a rejection under USC §102, a single reference must disclose each and every element of the claimed invention, the elements being configured in such a way as to fully disclose the claimed invention. The Applicant urge that the rejection of claims 1, 2, 4, 5, 7, 8, 13, 14, and 21-27 under 35 USC §102 (b) as being anticipated by the Hwang reference is unwarranted because the Hwang reference does not disclose each and every element of the claimed invention, specifically the cited claim elements of the present independent claims 1, 13, 21 and 26.

The Applicant respectfully states that the Hwang reference fails to disclose each and every element of the independent claim 1 and specifically, the recitations of a probe comprising "a plurality of transducers; and a plurality of reconfigurable pulsers within said probe responsive to one or more transmit timing signals received from an external system to transmit pulses to said plurality of transducers, wherein *each reconfigurable pulser is coupled to a respective transducer, and wherein said probe further includes a multiplexer that receives said timing signals from said external system and provides said signals to said plurality of transducers.*" In a similar manner, the Hwang reference fails to disclose each and every element of the independent claim 13 and specifically, the recitations of a probe comprising "a plurality of transducers; an array of reconfigurable pulsers, each transducer responsive to pulses from a dedicated said reconfigurable pulser, wherein each reconfigurable pulser is coupled to a respective transducer, and wherein *said probe further includes a multiplexer that receives said*

timing signals from said external system and provides said signals to said plurality of transducers". Further, in a similar manner, the Hwang reference fails to disclose each and every element of the independent claim 21 and specifically, the recitations of a method for operating a transducer probe comprising "*controlling a plurality of reconfigurable pulsers in a probe utilizing the one or more signals from the external system; and operating said plurality of transducers utilizing signals from said plurality of reconfigurable pulsers, wherein each reconfigurable pulser is coupled to a respective transducer.*" Further, in a similar manner, the Hwang reference fails to disclose each and every element of the independent claim 26 and specifically, the recitations of a method for operating a transducer probe comprising "*controlling a plurality of reconfigurable pulsers in the probe utilizing the one or more signals generated in the transducer probe, wherein each reconfigurable pulser is coupled to a respective transducer*".

The Examiner stated in Page 2 of the Office Action dated November 28, 2008 that the Hwang reference teaches a probe comprising: a plurality of transducers (Abstract Fig. 3 element 12); and a plurality of reconfigurable pulsers (Fig. 5 element 402, 404, 414, and 416) within said probe responsive to one or more transmit timing signals received from an external system to transmit pulses to said plurality of transducers (Fig. 3 element 30), wherein each reconfigurable pulser is coupled to a respective transducer (Fig. 5 element 402, 404, 414, and 416), and wherein said probe further includes a multiplexer that receives said timing signals from said external system and provides said signals to said plurality of transducers.(Fig. 3 element 18).

The Applicant referred to the figure elements and the paragraphs cited by the Examiner and respectfully states that the Hwang reference illustrates a transmit/receive multiplexer I.C. (Fig. 5). It may be noted that the signal path to the multiplexer I.C is divided into four sections. Each of the four sections (Fig. 5 section S1, S2, S3 and S4) within the multiplexer I.C. Section S1 has 4 pulsers (Fig. 5 element 402, 404, 414 and 416) and 4 transducer elements (Fig. 5 element 1, 33, 65 and 97). Further, each of the four sections has two 2:1 transmit multiplexer. In section S1, each of the transmit multiplexers (Fig. 5 element 408 and 410) provides signals to the four pulsers (Fig. 5 element 402, 404, 414 and 416). Further, it has been described in Hwang that "the 2:1 transmit multiplexer 408 is coupled to drive either element 1 or element 65, and the transmit multiplexer 410 is coupled to drive either element 33 or element 97". *See* Hwang col 9, lines 19-25. It is clear from this description that at any given time the signal from an external system from where the multiplexer I.C gets a transmit timing signal, can be transmitted by each of the 2:1 transmit multiplexers to only one of the two transducer elements. Consequently, only one out of two transducer elements can be driven by the transmit timing signal. Since, within the multiplexer I.C., only 8 out of 16 transducer elements can be driven at

a time, Hwang reference fails to disclose that *each reconfigurable pulser is coupled to a respective transducer.* Further, nowhere does Hwang teach a probe that includes a multiplexer that receives timing signals from any external system and provides the signals to said plurality of transducers.

Applicants respectfully submit that, in view of these distinctions, Hwang cannot anticipate independent claims 1, 13, 21 and 26. Claims 2, 4, 5, 7, 8 depend directly or indirectly from independent claim 1; and claim 14 depends from independent claim 13; and claim 27 depends from independent claim 26 and are therefore believed to be patentable by dependency. Accordingly, the Applicant submits that the Hwang reference cannot establish a *prima facie* case of anticipation of claims 1, 2, 4, 5, 7, 8, 13, 14, and 21-27, and respectfully request the Examiner to withdraw the rejection of these claims under Section 102(b) based on the Hwang reference.

35 USC §103

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hwang in view of Little (U.S. Patent No. 5,893,363, hereinafter "Little").

Applicant respectfully submits that Hwang does not teach, suggest, or disclose each and every element of the independent claim 1, in its currently amended form, and specifically the recitations of a probe comprising "a plurality of transducers; and a plurality of reconfigurable pulsers within said probe responsive to one or more transmit timing signals received from an external system to transmit pulses to said plurality of transducers, wherein each reconfigurable pulser is coupled to a respective transducer, and wherein *said probe further includes a multiplexer that receives said timing signals from said external system and provides said signals to said plurality of transducers.*" Therefore, the Applicant believes that Hwang does not render the independent claim 1 unpatentable under 35 USC §103(a).

Further, Little fails to overcome this deficiency of Hwang. Little discloses a hand held ultrasonic instrument is provided in a portable unit which performs both B mode and Doppler imaging. Thus, none of the cited references either taken alone or in any hypothetical combination, specifically teach or suggest or disclose the invention as recited in independent claim 1. Accordingly, Applicant respectfully submits that a prima facie case of obviousness cannot be established for independent claim 1. Claim 6 depends directly from independent claim 1 and is therefore believed to be patentable by dependency. Applicant respectfully requests that the Examiner withdraw the rejection under 35 USC 103.

Summary

For the reasons set out above, the Applicants respectfully submits that the application is in condition for allowance. Favorable reconsideration and allowance of the application are, therefore, respectfully requested.

If the Examiner believes that anything further is necessary to place the application in better condition for allowance, the Examiner is kindly asked to contact the Applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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